

We claim:

5      1. A flocked article comprising  
a substrate comprising expanded PTFE; and  
at least one layer of flock particulate attached to at least a portion of said  
expanded PTFE to form a flocked surface, wherein said flocked surface has an  
abrasion to leakage value of at least 50 wear cycles.

10     2. The flocked article of claim 1, wherein said article further comprises at  
least one adhesive layer attaching said flock particulate to said expanded  
PTFE.

15     3. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 75 wear cycles.

20     4. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 200 wear cycles.

25     5. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 500 wear cycles.

30     6. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 1000 wear cycles.

35     7. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 2000 wear cycles.

40     8. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 3000 wear cycles.

45     9. The flocked article of claim 1, wherein said flocked surface has an  
abrasion to leakage value of at least 4000 wear cycles.

50     10. The flocked article of claim 1, wherein said substrate further  
comprises at least one fabric selected from the group consisting of wovens,  
nonwovens and knits.

55     11. The flocked article of claim 1, wherein said substrate further  
comprises at least one material selected from the group consisting of foams,  
films, membranes and paper.

60     12. The flocked article of claim 10, wherein said at least one fabric  
further comprises at least one of a suede surface, a pile surface and a fleece  
surface.

13. The flocked article of claim 1, wherein said substrate further comprises at least one material selected from the group consisting of nylons, polyesters, cottons, rayons, acrylics, cellulose acetates, wool, carbon, fiberglass, rubber, vinyl and leatherboard.

5        14. The flocked article of claim 1, wherein said at least one layer of flock particulate comprises at least one material selected from the group consisting of nylons, cottons, polyesters, modacrylics, aramids, rayons, acrylics, cellulose acetates, wool, carbon, fiberglass, rubber, vinyl and leatherboard.

10      15. The flocked article of claim 1, wherein said substrate further comprises at least one material selected from the group consisting of polyesters, copolyesters, fluoroelastomers, block copolymers, copolyesterethers, copolyetheresteramides, olefins, copolyetherpolyesters, copolyetherurethanes, polyethylenes, polyamides, polyethyleneimine, polyamines, polypropylene, polycarbonates, polymethylmethacrylate, 15      polyvinylchlorides, polyvinylidene fluoride, polysulfone, polystyrenes, polyolefins, modacrylics, aramids and polyacrylonitriles.

20      16. The flocked article of claim 1, wherein said at least one layer of flock particulate comprises at least one polymer selected from the group consisting of polyesters, copolyesters, fluoroelastomers, block copolymers, copolyesterethers, copolyetheresteramides, olefins, copolyetherpolyesters, copolyetherurethanes, polyethylenes, polypropylene, polycarbonates, polymethylmethacrylate, polyvinylchlorides, polyvinylidene fluoride, polysulfone, 25      polystyrenes, polyolefins, modacrylics, aramids and polyacrylonitriles.

25      17. The flocked article of claim 2, wherein said at least one adhesive layer comprises at least one material selected from the group consisting of acrylics, acrylamides, epoxies, silicones, urethanes, polyesters, polyesters cross-linked with polyfunctional isocyanates and fluoropolymers.

30      18. The flocked article of claim 2, wherein said at least one adhesive layer comprises a continuous layer of adhesive.

30      19. The flocked article of claim 2, wherein said at least one adhesive layer comprises a discontinuous layer of adhesive.

35      20. The flocked article of claim 2, wherein said at least one adhesive layer comprises a foamed layer of adhesive.

35      21. The flocked article of claim 1, wherein said expanded PTFE further comprises an oleophobic coating on at least a portion thereof.

22. The flocked article of claim 1, wherein said expanded PTFE further comprises a hydrophilic coating on at least a portion thereof.

23. The flocked article of claim 1, wherein said article has a moisture vapor transmission rate of at least 2000 g/m<sup>2</sup>/day.

5        24. The flocked article of claim 1, wherein said article has a moisture vapor transmission rate of at least 7500 g/m<sup>2</sup>/day.

25. The flocked article of claim 1, wherein said article has a moisture vapor transmission rate of at least 10,000 g/m<sup>2</sup>/day.

10      26. The flocked article of claim 1, wherein said article has a moisture vapor transmission rate of at least 15,000 g/m<sup>2</sup>/day.

15      27. A flocked article comprising:  
                a substrate having a first side and a second side wherein said first side comprises a water resistant, wind resistant breathable material; and  
                at least one layer of flock particulate attached to at least a portion of said first side; wherein said article has an abrasion to leakage value of at least 50 cycles.

20      28. The flocked article of claim 27, wherein said water resistant, wind resistant breathable material is selected from the group consisting of polyesters, polyurethanes, and polyolefins

29. The flocked article of claim 28, wherein said water resistant, wind resistant breathable material comprises copolyetherpolyester.

30. The flocked article of claim 28, wherein said water resistant, wind resistant breathable material comprises polyether polyurethane.

25      31. The flocked article of claim 27, said flocked surface has an abrasion to leakage value of at least 100 wear cycles.

32. The flocked article of claim 27, wherein said flocked surface has an abrasion to leakage value of at least 500 wear cycles.

33. The flocked article of claim 27, wherein said flocked surface has an abrasion to leakage value of at least 1000 wear cycles.

30      34. The flocked article of claim 27, wherein said flocked surface has an abrasion to leakage value of at least 2000 wear cycles.

35. A flocked article comprising  
                a substrate having at least a first side and a second side wherein said first side comprises expanded PTFE;

at least one layer of flock particulate attached to at least a portion of said first side; and

at least one layer of flock particulate attached to at least a portion of said second side.

5       36. The flocked article of claim 35, wherein said flocked surface has an abrasion to leakage value on said first side of at least 50 wear cycles.

37. The flocked article of claim 35, wherein said flocked surface has an abrasion to leakage value on said first side of at least 500 wear cycles.

10      38. The flocked article of claim 35, wherein said flocked surface has an abrasion to leakage value on said first side of at least 1000 wear cycles.

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Contd~~ 39. The flocked article of claim 35, wherein said second side comprises expanded PTFE.

40. The flocked article of claim 35, further comprising at least one adhesive attaching said flock particulate to at least one of said first side and said second side.

41. A flocked article comprising

a substrate comprising expanded PTFE membrane having a coating of water resistant, moisture vapor permeable material, and

20      at least one layer of flock attached to at least a portion of the coated membrane, wherein said flocked surface has an abrasion to leakage value of at least 50 wear cycles.

42. The flocked article of claim 41, wherein said flocked surface has an abrasion to leakage value of at least 500 wear cycles.

25      43. The flocked article of claim 41, wherein said flocked surface has an abrasion to leakage value of at least 1000 wear cycles.

44. A flocked article comprising

a substrate; and

at least one layer of flock particulate comprising expanded PTFE attached to at least a portion of said substrate.

30      45. The flocked article of claim 44, further comprising at least one adhesive layer.

46. The flocked article of claim 44, wherein said substrate comprises multiple layers.

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47. The flocked article of claim 44, wherein said substrate comprises at least one fabric selected from the group consisting of wovens, nonwovens and knits.

48. The flocked article of claim 44, wherein said substrate comprises at 5 least one material selected from the group consisting of foams, films, membranes and paper.

49. The flocked article of claim 1 in the form of a water resistant, wind resistant, breathable garment.

50. The flocked article of claim 27 in the form of a water resistant, wind 10 resistant, breathable garment.

51. The flocked article of claim 35 in the form of a water resistant, wind resistant, breathable garment.

52. The flocked article of claim 44 in the form of a water resistant, wind resistant, breathable garment.

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